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ABSTRACT

A series of workshops were offered for vocational education administrators and researchers to train them in institutional research methods in a systems planning context. The basic purpose of the project was to provide an opportunity for vocational educators to become familiar with (1) research methodology; (2) to train vocational educators to utilize research services which now exist on their own campuses; and (3) to develop institutional research skills in personnel on campuses where such competency does not exist. The hypothesis of the workshop was: experiencing first hand and applying the research concepts to planning and evaluation problems will increase the likelihood of vocational educators using such services on his own campus. (Author/DB)

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RESEARCH TRAINING WORKSHOPS FOR VOCATIONAL EDUCATORS

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Chancellor's Office
The California Community Colleges
Sacramento, California

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Northern California Community College
Research Group

Project Director:

Walter L. Brooks
Shasta College

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June 15, 1973

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I N T R O D U C T I O N

This is a final report on the series of research training workshops offered by the Nor Cal Research Group and sponsored by the Division of Occupational Education of the California Community College Chancellor's Office. The intent of these workshops was to make vocational administrators more aware of institutional research methods and to acquaint them with research and planning resources available to them.

The report begins with a narrative description of the workshops by the project auditor and is followed by materials which essentially describe each of the three workshops. The report does not contain a description of the individual projects which arose on college campuses in conjunction with the workshops. It was agreed in the project application that a year would be allowed from the termination of the project to assess the learning which took place in the workshops. As of this writing, eight of the twenty-three colleges participating in the workshops have substantially completed research projects undertaken in conjunction with the research training workshops. The purpose of these workshops was not, however, limited to the development of a single, formally constructed research project by the workshop participants. It was rather to provide practical research skills to improve the day-to-day institutional research requirements of community colleges, such as student follow up, program feasibility studies, and curriculum evaluation.

On behalf of the Nor Cal Research Group, I would like to thank Dr. Bill Morris, Consultant on Evaluation of Vocational Education with the California Community Colleges Chancellor's Office, for his cooperation

and participation in these workshops. I would also like to commend the workshop coordinators, Lorine Aughinbaugh, Assistant Dean of Research, American River College; Dean Eaton, Director of Admissions, Solano College; Tom MacMillan, Director of Institutional Research, Santa Barbara City College, and Paul Preising, Director of Institutional Research, San Jose City College, for arranging facilities on community college campuses and for their thorough preparation in their roles as group discussion leaders and resource persons.

I would also like to commend Dr. Ben Gold, Director of Research, Los Angeles City College, who acted as the chief project consultant, for his invaluable assistance in both planning workshop activities and offering leadership in carrying them to successful conclusion. The general feeling of workshop participants was that Dr. Arthur Cherdack, Director of Research, East Los Angeles College; Dr. Ralph Smith, Chairman, Department of Educational Administration, Brigham Young University, and Dr. Kent Stephens, Department of Educational Administration, Brigham Young University, did an effective job in presenting educational system analysis concepts and techniques.

I would also like to thank Ira Nelken, project auditor, for his fair and comprehensive educational audit of the project.

EDUCATIONAL AUDIT REPORT

NOR-CAL RESEARCH TRAINING WORKSHOP
FOR
VOCATIONAL EDUCATORS

SHASTA COLLEGE

Submitted By
Ira Nelken
March 25, 1973

I. ABSTRACT

OF NORTHERN CALIFORNIA TRAINING WORKSHOP FOR VOCATIONAL EDUCATORS

A series of workshops were offered for vocational education administrators and researchers to train them in institutional research methods in a systems planning context. This resulted from awareness that vocational education administrators were not aware of the research skills available to them in the research office on their own campus nor were the researchers adequately prepared to deal with administrative planning encountered in the development of vocational education programs. The workshops were staffed by leading consultants in systems planning and community college institutional research directors. The problem areas identified for investigation during the workshops were cast in appropriate systems planning models and teams began to carry out the necessary research for problem solution.

The basic purpose of the project is to provide an opportunity for vocational educators to become familiar with (1) research methodology; (2) to train vocational educators to utilize research services which now exist on their own campuses; and (3) to develop institutional research skills in personnel on campuses where such competency does not exist. The hypothesis of the workshop was: experiencing first hand and applying the research concepts to planning and evaluation problems will increase the likelihood of vocational educators using such services on his own campus.

Too often decisions are made on partial or unreliable information, even though the capability for obtaining accurate information may be available.

Planning models will only be implemented successfully when they are tied in more general research methodology which is essential to their effectiveness.

II. OBJECTIVES OF THE PROJECT

The project has three objectives:

1. "To assist teams of two educators from 16 northern California community colleges to identify at least one problem area in an important vocational education function, to describe the problem in systems terms and to conduct research necessary to the problem solution".

   This objectives consists of five measurable portions:

   a. Two people
   b. Fifteen Community Colleges
   c. One problem need to identify
   d. One problem described each
   e. Research conducted to solve the problem

2. "To provide each Community College team specific training in a general systems planning model of their choice and to relate this planning model to research techniques necessary to the chosen system".

   This objective consists of two portions:

   a. Training in general systems planning models
   b. Relating research techniques to this chosen system

      The Project Director with concurrence from workshop coordinators and the Project Auditor believed one generalized generic model could be used and modified by all groups at the workshop and therefore training in one generalized planning model (a modification of Kent Stephen's model) was used.

3. "To increase the probability that the vocational educator from participating colleges will use the research resources available on college campus".

This objectives consists of one part: increasing the probability of vocational educators using resources available from campus. This objective is the most difficult to measure of the three objectives of the project.

III. EVALUATION OF OBJECTIVES

Objective #1 was measured by: (a) attendance and participation of vocational personnel; (b) selection and application of assistance design to an actual program; and (c) a survey of the vocational educators regarding the assistance given during the workshops and the understanding of the various planning models presented. Measurement of objective #1 was competently and adequately accomplished.

Objective #2 was measured by: (a) actual changes made or planned in the vocational programs selected for study as a result of information gained during analysis of their data; (b) a presentation by conference participants on their projects during the final workshop rated by the Project Auditor on (1) understanding of the planning model, (2) application of the model to a particular planning or revision problem, and (3) appropriateness of the research design and statistical methods used.

Objective #3 was to be measured by standardized interviews of vocational administrators who participated prior to the workshop to determine (a) the number of administrators currently using the systems planning models and the extent to which research resources on campus are currently used and (b) one

year after the completion of the workshop surveys to participating vocational administrators to determine how many continue to use information and skills on other projects; e.g. (1) the local team approach, (2) the planning model used. It was decided by the Project Director (the Auditor concurs) that (a) was not necessary. The important information is contained in the discrepancy between what is being used now and what will be used in the future and this can best be measured by a standardized follow-up of the administrators after the completion of the workshops to determine how many continue to use information gained during the project. The post measurement (b) was determined by the Auditor to be extremely adequate and a highly competent measurement of the actual effects of the workshop. The difficulty is this can not be done for a year. The Auditor is confident the present Project Director will undertake this post evaluation of the workshop series and will be highly competent and successful in reporting the results of the follow-up survey conducted.

The only objective which lends itself easily to statistical analysis is objective #3, where the significance of the change in the variables measured can be determined. The results for this objective will not be available for another year.

IV. ACTIVITIES TO MEET OBJECTIVES

An advisory committee representing both vocational educators and the Nor-Cal Steering Committee met and planned three workshops which were conducted on November 3-4, 1972, December 7-8, 1972 and March 22-23, 1973. Vocational educators and research personnel from all the northern California Community Colleges were invited. A director was selected for each workshop and consultants were used as workshop staff.

At Workshop 1 widely used planning models were presented by experts in the field with special attention given to operational strengths and weaknesses of each. Each participating team selected a design methodology appropriate to its problem following the presentations, reviewed and selected the program characteristics appropriate to the model selected and to their local requirements and developed a tentative time schedule and a list of activities to be completed by the team. Ben Gold was the outside consultant for the research methodology and design. Kent Stephen's design for systems analysis and problems was used. Staff from the various Nor-Cal Community Colleges, especially Lorine Aughinbaugh, Tom McMillan and Paul Preising aided in workshop development and implementation.

Workshop 2 was used to review progress to date with the aid of the consultants, to review and revise team operational plans, to finalize plans for completion of each study and to allow for progress reports and plan completion of the study by each participating team to the entire group.

Workshop 3 was used as (1) a presentation of final progress reports projects, (2) a dissemination of exemplary developed follow-up and needs assessment practices, (3) an evaluation of planning models and the use of a planning model for the situation for which it was selected, and (4) the evaluation of the workshop series in its entirety and preparation and dissemination of final project report.

Memoranda for each workshop to Nor-Cal research training workshop potential participants and for participants were sent out from the Project Director's office prior to each meeting, outlining specifically the tentative content of the workshop and the potentials which the workshop could and was to serve. A comprehensive attempt was made to involve participants and potential.

participants in workshops and in pre-workshop activities whenever possible. The Nor-Cal Steering Advisory Committee met several times to analyze and plan and evaluate workshops.

An addendum was produced to clarify the nature of the research training conducted at the project workshops. The research training met two criteria: (1) all research methods and techniques covered in the workshops were elementary enough to be understood and applied in the two days allowed for each workshop, and (2) all methods and techniques were immediately applicable to research problems commonly encountered in the community college setting.

A generic system model by Dr. Roger Kaufman, described in a vocational education seminar in San Diego, was adopted to underpin the essential research competencies needed in two key areas: (1) problem identification, and (2) determining performance effectiveness.

Several sections of the workshop related to identifying problems from needs. Needs assessment in a system approach assumes certain methods, the availability of certain methods, and an understanding of these methods by the vocational educator and research director. Sections on the use of 1970 census data as a means of pinpointing population characteristics, the Delphi technique as a tool in needs assessment, and the construction of questionnaires, rating scales, and standardized interviews for a given target population were developed and available at the second workshop.

To meet the needs of determining performance effectiveness, a general understanding of the experimental method: hypothesizing, making operational

definitions, the nature of intervening variables, independent and dependent variables, and controlled observation was made available. Five widely used research designs were advanced and available at the workshops: the one-shot design, the one group pre-post test design, the static group design, the random group design, and the pre-post randomized group design. Fundamental statistical concepts: significance tests, sampling and procedures, grouping data, and test scores were available and covered at the workshops.

V. WORKSHOPS

The first workshop was opened with a brief orientation to the total project and then assisted workshop participants in delineating the research to be undertaken during the year. Workshop participants were introduced to an educational system management model and operations research concepts and presented research designs most appropriate to institutional research in the community college. The workshop met with limited success. One of the major reasons was the fact that each of the teams at the workshop was at a different level of knowledge and training and this Auditor feels that the workshop required more individualization than had first been planned.

The auditor commends the Project Director and his consultant staff for recognizing the problems of the first workshop and producing an active second workshop which better met the needs of the participants. Each workshop consultant was available at a different table to give assistance to participants on their particular project and to discuss particular topics in specific terms. These topics were: problem definition, experimental design, census data analysis, questionnaires and interviews, statistics and sampling, and follow-up. This individualized approach in the second workshop met with an extremely good reception by the participants and the Auditor noted the success of this second workshop. Actual projects had not

to this point been well delineated except in a few cases and therefore limited critiquing of projects took place.

A number of informational documents had been developed by workshop leaders and consultants and were distributed at the workshops and made available to all those that wanted such information. The Project Director had devised an evaluation sheet for the first workshop, asking comments from participants upon each of the presentations, noting ideas which had immediate application to the participants' area of responsibility, ideas and concepts the participant would like to hear more about and other comments positive or negative that needed to be made about the presentations. The evaluation sheets were collected from participants and were used to aid in determining the process and content structure of the second workshop. The Auditor commends the Project Director upon such a form of process evaluation which he believes aided tremendously in the success of the second workshop.

The Project Director collected and analyzed project descriptions from the various teams between the second and thrid workshops. This data can be invaluable for determining the affect of the workshop upon the participants.

The third workshop emphasized follow-up procedures, needs assessment and project progress reports. Performance requirements for a follow-up instrument, exemplary follow-up practices/procedures (3 cases) and small group meetings to develop a follow-up instrument led to a generalized proto-type follow-up instrument which was applicable to met the needs of all the Nor-Cal Community Colleges. The workshop was well attended and is considered as successful by this auditor.

VI. THE AUDITOR

The Auditor has met on five separate occasions with the Project Director and discussed the project in terms of the Auditor's perceptions of a general discussion of the project, things that could and couldn't be done, how the process was perceived; the project's strengths, weaknesses, recommendations, and suggestions. The Auditor also attended the second project workshop and the third project workshop and at these workshops met and talked to the project's consultants and workshop coordinators, as well as a number of the project participants. He received valuable information on how those people perceived the project and what was happening. The Project Director made available to the Project Auditor all written materials with reference to the workshop and has been extremely helpful in producing records for the Project Auditor to examine. To add depth to the audit, the Auditor chose at random two particular teams from two community colleges attending the workshop series: one college in the Sierras and the other in the Sacramento Valley and has been corresponding and conversing with these two teams.

VII. PROJECT STRENGTHS, WEAKNESSES, RECOMMENDATIONS AND SUMMARY

Project Strengths

1. Planning for the project has been continuous and process revision has been undertaken continuously when necessary.
2. Workshops have been modified when necessary to meet the needs of the participants.
3. The project and the workshops have essentially followed the original project design and all modifications which have occurred have been concurred upon by the Project Director, consultants, and Project Auditor.
4. The project is to be commended for the availability of experts to meet the needs of the participants. A number of exceptionally well qualified

people who are able to interact effectively with community college administrators and researchers were available and used.

5. The pre/post planning and analysis for the workshops was very well done. The Auditor commends the Project Director.
6. The openness and frankness of the Project Director and coordinators in noting the project's limitations as well as strengths is seen by this Auditor as a strength. This has allowed for necessary modifications of the project to better meet the participants needs.
7. Interim process evaluation allowing for revision and modification for workshops after original planning had been done produced more successful workshops. The Auditor sees the continuous interim process evaluation of the project as a significant strength of the project team and the project itself.
8. The continuity of attendance among many of the participants from first to second to third workshop is seen as a strength of the project. The project was able to hold its participants.
9. There was excellent one-to-one interaction at the second workshop. Participants could go to whom they needed to go to get the information or help that they needed. The six-table design was very effective.
10. Group teams of participants did identify problem areas to work on.

Project Weaknesses

1. Some participants and consultants were not sure about the purpose of the project. Greater clarification of project objectives was necessary.
2. The Auditor has determined that a minimum of interaction between personnel (participants and consultants) took place between workshops. Greater interaction is required.

3. Few teams produced projects in depth. This is a limited weakness, since this was a secondary consideration and not the most important objective of the project.
4. Successful interaction occurred between those vocational administrators and researchers that came together at the workshop. However, not enough teams came to the workshops.
5. Larger (better) participation from more community colleges would have been nice. (19 of the 42 community colleges participated in at least 1 workshop)

Recommendations

1. A process needs to be developed whereby more interim (between workshop) interaction and follow-up takes place. This is seen as crucial to the production of greater integration in project development and research orientation.
2. Follow-up a year from now is necessary to find out if the information that was made available and learned at the workshops is being used in any reasonable form by workshop participants.
3. Perhaps a workshop series starting in the Spring and continuing through the Fall and into the next Spring would lead to more results (more Projects).
4. A list of participants needs to be sent to all participants. A list of available consultants in all areas of expertise that were discussed at the workshop needs to be sent to all participants. A list of references for the alternatives and suggestions given at the workshops by the consultants to participants needs to be sent to all participants.
5. The Evaluation Report and the Auditor's report needs to be sent to all participants of the workshops.
6. This auditor recommends continuance of the project or a modified project as a follow-up/continuation of this integrated training/dissemination approach to research and administration in vocational education.

Generalized Summary and Conclusions

The workshops were a moderate success. This Auditor sees the project as highly successful.

The basic difficulty is: how to get the research man and the vocational education administrator in the community college together with consultants and produce an integrated learning/research/action team or format.

This project used what this Auditor would call the "rub off"/action/motivation approach: make information available, aid in determining where it is available, give supportive services/aid at any stage of development (plant the seed, give it a little water, wait for the sun to shine when required). People are motivated when they need something and when these workshop participants need research techniques and aids, at the very least they now know where to go and they have the beginning of a background upon which to go from and grow. Two key points emerge from the project and lead this Auditor to state the project was successful:

1. Vocational administrators and researchers are now more aware of having alternatives to choose from to satisfy their needs,
2. The Project has planted seeds and given information which can later be used when necessary or required for particular problems in the community colleges.

First Research Training Workshop
for Vocational Educators

November 3-4, 1972

SUMMARY

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NOR CAL RESEARCH TRAINING WORKSHOP

A G E N D A

Friday, November 3, 1972

Session

I 9:00 a.m. to 9:45 a.m. Mr. Walter Brooks

Orientation and Introduction, Coffee, Housekeeping Chores, Introductions, Overview, Objectives, Assignments

II 9:45 a.m. to 10:45 a.m. Dr. Ralph Smith

"Research Concerns of Community College Vocational Administrators"
"The Research Needs of Community College Vocational Educators"

III 10:45 a.m. to 11:00 a.m. Break

IV 11:00 a.m. to 12:00 (Noon) Dr. Kent G. Stephens

"Organizational Structure, Behavior, and Communication Affecting the Research and Vocational Administrator"
"Applied Educational Planning and Decision Process"

V 12:00 (Noon) to 1:00 p.m. (Lunch)

VI 1:00 p.m. to 2:30 p.m. Dr. Kent G. Stephens

"Systematic approach to Problem Solving"
"Sophisticated vs. Appropriate operations research techniques"

VII 2:30 p.m. to 2:45 p.m. Break

VIII 3:00 p.m. to 4:30 p.m. Dr. Ben Gold

Types of research, importance of design, researchable and non-researchable problems, significance sampling, experimental and Quasi-Experimental designs, external and internal threats to validity.

Saturday, November 4, 1972

Session

I 8:00 a.m. to 8:45 a.m. Dr. Ben Gold, Dr. Ralph Smith, and Dr. Kent Stephens

Summary and Review of Friday's Sessions.

II 8:45 a.m. to 10:15 a.m. L. Aughinbaugh, T. MacMillan, P. Preising

Some specific aids in planning data collection: use of census data (MacMillan), tips on questionnaires and interviews (Aughinbaugh), sources and kinds of data (Preising).

III 10:15 a.m. to 10:30 a.m. Break

IV 10:30 a.m. to 12:00 (Noon) Paul Preising

Division of participants into groups of 2-4 persons for discussion of concerns and projects (during this time the entire staff would "float around" to these groups providing assistance according to their perceived needs, i.e. They may feel a need to pursue further topics presented earlier as they relate to their own concerns or projects). This will also allow for refinement of a short presentation by the groups of their project or concern in the session following lunch.

V 12:00 (Noon) to 1:00 p.m. Lunch

VI 1:00 p.m. to 2:30 p.m. Paul Preising

Presentation by participants of their concern or project and how they propose to approach it.

VII 2:30 p.m. to 3:00 p.m.

Entire Staff (Panel with Walter Brooks as moderator) summary and where we go from here.

Evaluation Sheet

Comments made by workshop participants - Workshop #1, November 3-4, 1972

Friday, November 3

A. "Research Concerns of Community College Vocational Administrators"
"The Research Needs of Community College Vocational Educators"- Dr. Ralph Smith

1. Good general overview with specific examples, but he is not aware of the growth in sophistication of the current California Vo-Ed Dean.

2. The need for G.E. Requirements at appropriate level. How do you get employers to give realistic level of competence needed. They all want college grads.

3. We need to know more about our Vo-ed students if we are to expect our faculty to understand them better. The Vo-Ed faculty, I believe, understands the nature of the student but the Gen. Ed. faculty probably doesn't. There isn't a cleavage in the faculty but the Gen. Ed. instructors are from a different world academically. We should be able to paint a picture of the Vo-Ed student in terms of attitudes, aspirations, and abilities. How did the Vo-Ed faculty change attitudes of the academic faculty at Centralia in Washington?

4. Good presentation for me, a new member. Gave me a general overview to the problem.

5. No more "off the top."

6. How to use research to help Occ. Ed.

7. As the "war" shuts down and career ed. comes on, who will continue the battle for men's minds?

8. A very good introduction to the general problem of Voc. Ed.

9. Good up-to-date review of the relationships that do exist in the community college in areas of career ed/research. Set a good tone for the workshop.

10. Important in some respects but differ philosophically to academic and vocational criteria. What is the purpose of vocational education and how is it to be determined? Agree with thoughts on teaching and research.

11. Received valuable info. regarding concerns with which we should be familiar in evaluating programs.

12. Research has not modified our programs. How can communicate with researchers to get the research we need that will let us sell program changes to the advisory committee and the community?

13. How do you prevent the vocational/academic schism? We are working on organizational plan and hope to prevent above.

14. Need mimeographed material for distribution.

15. Good general survey. Not anything particularly new, but good to be reminded about the things he spoke of.

B. "Organizational Structure, Behavior, and Communication Affecting the Research and Vocational Administrator" - Applied Educational Planning and Decision Process" - Dr. Kent G. Stephens

1. Excellent material--concise presentation, but perhaps too much, too quickly. A few ideas on taking a systematic approach to solve a problem and then more examples as to how to get started might have been enough for a starter.

2. Excellent--System analysis and fault tree analysis as a special tool. I can use this on several ideas that are presently being looked at.

3. Both presentations were informative. It leaves you feeling you need a lot more in systems.

4. I saw no relationship between the exercise and the two topics listed here. The point that Dr. Stephens was trying to make was somewhat clarified through the questionnaire.

5. Very informative on management techniques but somewhat questionable as to applicability to research techniques. Visuals looked impressive but Kent was frequently in the way and blocked the screen from view.

6. Thought provoking - Presentation good.

7. Very valuable information. A little too fast to comprehend details, but fine introduction to a method.

8. As usual, he did a good job. I just need more experience with his system. HELP!!

9. Specific mathematical formulae for research presentation was excellent. I would like more details on how researcher establishes priorities.

10. Effective program on management analysis.

11. Application of ideas to vocational education was very difficult--if there were any intended.

12. Enjoyed this part.

13. Good introduction.

14. Too much material too fast. All good stuff but it would be much better to explore a <u>few</u> areas in depth, to get people <u>involved</u>. As it was, it was a "fast lecture" situation.

C. "Systematic approach to Problem Solving" - "Sophisticated vs. Appropriate operations research techniques" - Dr. Kent Stephens

1. The group came alive when they were participating--more of this is needed.

2. Dr. Stephens is very well informed on sophisticated methods to be used for researching very difficult problems. His presentation covered too much too fast for non-research oriented people. A few examples of difficult research problems for Calif. Community College Vo-Ed and research people would have made his presentation more meaningful for me.

3. Great presentation. I only wish that I had his presentation on tape!

4. Enjoyed all that was done.

5. Looks like an interesting but complex subject which will take some special training and workshops.

6. This type of approach is great for large populations. Would like to know more about applicability to small groups.

7. Techniques were good but their direct relationship to "our" purpose was always in my mind.

8. Too much, too fast. Would have been completely lost if I had not been at Napa.

9. Too much, too fast to be very useful, except as a very general overview of what some people can do. Some good ideas (immediately useful) but these had to be caught "on the fly" while the rest of the discussion went speeding by. (But -- interesting.) Some of this material was covered (with much the same group) last year.

D. Types of Research, importance of design, researchable and non-researchable problems, significance sampling, experimental and Quasi-Experimental designs, external and internal threats to validity - Dr. Ben Gold

1. Excellent reference materials--like his slow easy pace and yet he covers a great deal of ground. Wonder if we were to take a typical vo-ed research problem and follow it through from beginning to end, if we wouldn't be of more immediate help to those attending?

2. Excellent bibliography, general concepts, specific application.

3. Lots of good ideas.

4. Dr. Gold made a good presentation. It is apparent that he has had a lot of experience and can no doubt be of a great deal of help to individual vo-ed people and research people on individual problems.

5. Good review of resources.

6. Glad to have the resource list. I will have to study the P-Picker approach more to gain its value.

7. I appreciate getting the bibliography. Design is so far above me--it's too much. Why don't you start with where I am and not where you think I ought to be?

8. Seems to be the kind of information we need to work on research projects -- good.

9. Presentation on bibliography was helpful to me.

10. Very valuable bibliography.

11. Presentation of source material was great! Handouts were of great value. The slides were not too interesting at this point.

12. Excellent.

13. Glad to have list of references.

14. Tangible, specific, adequately paced (not too fast), clear, operationally useful and helpful. People became involved.

Saturday, November 4

A. Summary and review of Friday's sessions. Dr. Ben Gold, Dr. Ralph Smith, and Dr. Kent Stephens

1. Stephens did a great job. Gold and Smith didn't contribute much that I found relevant.

2. Gold's bibliography will be helpful in the future. The Pea-Picker material offers me little.

3. Gold - Solid, good ideas on book of research

4. Smith - Not effective.

5. Stephens - Excellent, maybe a little too much for vo-ed people.

6. OK - I did not hear all of this.

B1. Tips on Questionnaires and Interviews - Lorine Aughinbaugh

1. Both Lorine and Tom MacMillan have done a good job in bringing in relevant information. Let's have Lorine's comments duplicated. Your next effort should be less talking <u>at</u> and more talking <u>with</u>.

2. Solid - many useful specific points.

3. Great - Could we get a copy of these very concise notes?

4. OK - Much came out in our group discussion on Follow Up studies. Her summary of her notes was good - but too late in the morning for people to be eager to take notes.

B2. Use of Census Data - Dr. Tom MacMillan

1. Did a good job in bringing in relevant information.

2. Excellent resources and methods of utilization of hard data already available to researchers as a basis for verification or point of departure for identification of problem.

3. I am writing for mine ASAP (as soon as possible).

4. This review session was the best part of the conference.

5. His report to the <u>whole</u> group at 11 was OK, but brief.

C. Refinement of a short presentation by the groups of their project or concern.

1. This session has been helpful. It put the brakes on what I was doing. I am now going to ask some questions and go back to the beginning. I like this better than yesterday's session.

ATTENDANCE LIST

Workshop #1 - November 3 & 4, 1972

Name of Participant	Title	College or Organization
Lorine Aughinbaugh	Assistant Dean of Research	American River College
Dean O'Brien	Electronics Instructor	American River College
Ralph B. Smith	Chairman-Dept. Ed. Adm.	Brigham Young University
Kent Stephens	Educa. Admin. Department	Brigham Young University
Jim Mitchell	Director-Transfer Ed.	Butte College
Earl P. McGhee	Director-Career Education	Butte College
Lance Rogers	Director-Tutorial & COIL	City College-San Francisco
Bob Deal	Assoc. Dean of Instruction	Columbia Junior College
Kenneth Jackson	Instructor	Contra Costa College
Vincent P. Padilla	Assoc. Dean/Even. & Summer	Cosumnes River College
Henry Walters	Career Planner/Research	Cosumnes River College
Bill Keehn	Research Analyst	De Anza College
Florin Caldwell	Director of Research	De Anza College
Bill Preston	Director of Research	Diablo Valley College
Charles Peterson	Instructor	Feather River College
Bruce Palmer	Research Assistant	Foothill College
Gerald Fries	Coord. Inst. Research	Fresno City College
Gary L. Graham	Coord. Handicap Prog./Coun.	Fresno City College
Ben Gold	Director of Research	Los Angeles City College
Dayton Axtell	Psychometrist	Merritt College
Harry Shortess	Assist. Dean - Voc. Ed.	Merritt College
Ron Leonard	Counselor	Monterey Peninsula College
Ralph Thompson	Research	Sacramento County Office
Sidney McGaw	Director -Voc. Ed.	San Jose City College
Paul Preising	Director of Research	San Jose City College
Tom MacMillan	Research	Santa Barbara C. College
Ray Rosales	Vo. Ed. Counselor	Santa Barbara C. College
Walter Brooks	Director of Research	Shasta College
Bob Nichols	Dean of Guidance/Admissions	Shasta College
Dean Eaton	Director of Admissions	Solano College
Fred Dagenais	Consultant	U. C. Berkeley

NOR CAL WORKSHOP
November 3-4, 1972
Ben K. Gold

I. Planning a Research Study

"Research is a way of dealing with ideas. It is nothing more than this, and it is nothing less" - Barnes

A. Characteristics of Researchable Problems

1. Important
2. Solvable in principle
3. Answers not already available
4. Reason alone is not enough reason
5. Manageable size
6. Concretely stated
7. Measures available
8. Favorable situational considerations

B. Types of Research (Isaac and Michael)

1. Historical
2. Descriptive
3. Developmental
4. Case and field
5. Correlational
6. Causal Comparative or "ex post facto"
7. True experimental
8. Quasi-experimental
9. Action

Barnes says two types: Historical-looking from present to past
Experimental-looking from present to future

Beaird (in CORD Manual) says you do one or more of three things: describe, compare, relate

C. Questions worth the J. C. Institutional Researcher's time: (Hoyt)* (three "layers" of research)

1. What characteristics that are important to education does a given student or group possess? (describe)
2. How does one group differ from one another? (compare)
3. What works and under what conditions? (relate)

D. Steps in the Research Process (Barnes)

1. Selecting the problem
2. Accumulating pertinent knowledge and information
3. Latent Period
4. Idea or hypothesis formation
5. Designing the test of the hypotheses
6. Critical analysis and evaluation of observations made
7. Rejection or acceptance

*Donald Hoyt -- presentation to 1967 CJCA Research Conference "The Preparation and Effective Use of Research Models at Your College"

(Isaac & Michael)

1. Identify the problem area
2. Survey the literature related to it
3. Define the actual problem for investigation in clear, specific terms
4. Formulate testable hypotheses and define the basic concepts and variables
5. State the underlying assumptions which govern the interpretation of results
6. Construct the research design to maximize internal and external validity
7. Specify the data collection procedures
8. Select the data analysis methodology
9. Execute the research plan
10. Evaluate the results and draw conclusions

E. Hypothesis Formation

1. Hypotheses - various possible explanations for the condition or event

   differ from assumptions - assumed truths
   differ from theories - broader, more general

2. Result from observing, collecting facts, surveying literature, mulling over, and calculated guesses
3. Criteria for evaluating hypotheses

   a. Plausibility
   b. Testability
      clear and precise
   c. Adequacy of scope
      does it explain all (or at least most) of the facts?
   d. Compatibility with present knowledge

4. Important as base for research design
5. Research (positive) hypothesis vs null (negative) hypothesis

F. The Research Design - the plan for the project

1. Questions to ask
   What approach is best?
   Are pertinent data available?
   What variables are relevant?
   How will data be collected?
   How will subjects be selected?
   What instruments will be used? (select or develop)
   Is pilot study desirable?
   Is there need to train data collectors?
   What analysis techniques are available?
   Will computer be available and/or helpful?

2. Experimental design

a. Design is of critical importance in experimental studies
b. Two considerations

(1) What questions will the design answer? (and not answer!)
(2) What is the relative information gain/cost picture?

c. Design entails: (Crawford in CORD Manual)

(1) Selecting or assigning subjects to groups on experimental units
(2) Selecting or assigning units for specific treatments or conditions of the experiment
(3) Specifying the order or arrangement of the treatment or treatments
(4) Specifying the sequence of observations to be taken

(does not include: details of sampling, selection of measurement instruments, selection of research problem, nuts and bolts of procedures, etc.)

d. "Max-min-con" (Kerlinger)

Design should:

(1) Maximize effects due to experimental variables
(2) Minimize effects of chance variables
(3) Control the effects of extraneous or unwanted variables

e. Validity

(1) Internal - does the treatment make the difference?
(2) External - can you generalize the results?

f. Threats to validity (Campbell & Stanley)

(1) Internal

History
Maturation
Testing
Instrumentation
Statistical regression
Differential selection
Experimental mortality
Interaction effects

(2) External

Reactive effect of testing
Interaction effects of selection biases and the experimental variable
Reactive effect of experimental arrangements
Multiple-treatment interference

3. Sampling

   a. All research studies involve sampling -- subjects, behavior, test questions
   b. Population: sample = total: part - parameter: statistic
   c. Types of sampling

      (1) Whatever is available
      (2) Simple random
      (3) Stratified
      (4) Cluster

   d. Generalization from sample to population requires random sampling
   e. Random number tables
   f. Statistical inference - statements about populations based on random samples

      Two types

      (1) Estimation of parameters
      (2) Tests of hypothesis (significance)

II. Data Collection and Analysis

Next workshop!

RECOMMENDED FOR THE J. C. RESEARCHER'S LIBRARY

* BARNES, Fred P., Research for the Practitioner in Education, Dept. of Elementary School Principals, N.E.A., 1964.

Although written primarily for elementary school educators, the material is general enough to be of help to the junior college researcher. An excellent introduction to concepts of research design and analysis. Easy to read.

* CAMPBELL, Donald T., and Stanley, Julian C., Experimental and Quasi-Experimental Designs for Research, Rand-McNally & Co., 1966

This book was originally a chapter in the Handbook of Research on Teaching, edited by N. L. Gage. It minimizes statistics, emphasizes threats to validity of each design. An important book, thorough and clear.

* FREUND, John E. and Williams, Frank J., Dictionary Outline of Basic Statistics, McGraw-Hill, 1966.

A dictionary of practically everything in statistics, followed by a section of statistical formulas. Not a text book, but a handy reference to have around.

* HUFF, Darrell, How to Lie with Statistics, W. W. Norton & Co., 1954.

A humorous little book with a powerful message about misuses of statistics. Should be read by everyone who presents or interprets statistics.

* ISAAC, Stephen and Michael, Wm. B., Handbook in Research and Evaluation, Robert R. Knapp, Publisher, San Diego, 1971.

"An overview, a summary of alternatives, an exhibit of models, --- a history of strengths and weaknesses." An excellent handbook for the "occasional" researcher.

KERLINGER, Fred N., Foundations of Behavioral Research, Holt-Rinehart Winston, 1965.

Lots of information in this book. Its 739 pages include something about anything related to scientific approaches to research. Lucidly written, a minimum of technical jargon.

OPPENHEIM, A. N., Questionnaire Design and Attitude Measurement, Basic Books, 1966.

If you are planning a survey using a questionnaire, interviews, or homemade attitude scales, it will pay you to consult this book first. Lots of suggestions, probable pitfalls, etc.

* paperbook

Recommended for the J. C. Researcher's Library (continued)

* SAX, Gilbert, The Construction and Analysis of Educational and Psychological Tests, College Printing and Typing, Inc., Madison, Wisconsin, Revised 1968.

  A workbook describing how to construct, analyze, and interpret tests, both standardized and teacher-made. Assume no background. Good sections on reliability and item analysis.

SHAW, Marvin E. and Wright, Jack M., Scales for the Measurement of Attitudes, McGraw-Hill, 1967.

An excellent source book for existing instruments for measuring a variety of attitudes. Scales are described and critiqued, with sample items from the many instruments included. Highly recommended to have available.

SIEGEL, Sidney, Nonparametic Statistics for the Behavioral Services, McGraw-Hill, 1956.

A "must" book. Details in clear language with examples of 27 nonparametic tests. Also a good discussion of the rationale behind them.

* SMITH, G. Milton, A Simplified Guide to Statistics for Psychology and Education, 4th edition, Holt, Rinehart and Winston, 1970.

  An excellent small book explaining in layman's language some of the more important concepts in statistical analysis. Especially good on significance tests and analysis of variance.

STUART, Alan, Basic Ideas of Scientific Sampling, Hafner, Publ. Co., 1962.

A brief book (98 pp.), written for the "non-specialist," indicates advantages and disadvantages of various types of sampling -- simple random, stratified, cluster, etc.

WALKER, Helen M. & Lev, Joseph, Statistical Inferences, Henry Holt & Co. (revised edition), 1958

There are many good statistics tests available. This is one of the better ones, from the standpoint of usefulness to the junior college researcher.

* WEBB, Eugene J., etal, Unobtrusive Measures: Nonreactive Research in the Social Sciences, Rand-McNally, 1966.

  This book details some interesting and useful methods of obtaining data using "measures that do not require the cooperation of a respondent and that do not themselves contaminate the response."

A useful set of materials to have on campus (for $15) is the CORD National Research Training Manual and Workbook. It can be obtained from Teaching Research, Monmouth, Oregon 97361.

Recommended References Useful in Analysing 1970 Census Data

1. Higher Education Measurement and Evaluation Kit

   Center for the Study of Evaluation
   Graduate School of Education
   University of California
   Los Angeles, CA

2. California Statistical Abstract

   State of California
   Documents Section
   P. O. Box 20191
   Sacramento, CA 95820

3. 1970 Census Population-General Population Characteristics Final Report PC(1) - B6

   U.S. Dept. of Commerce
   Bureau of the Census
   Washington, D. C.

4. 1970 Census of Housing - HC(1) - A6

   U.S. Dept of Commerce
   Bureau of the Census
   Washington, D. C.

5. 1970 Census of Population and Housing - PHC(1)

   U.S. Dept. of Commerce
   Bureau of the Census
   Washington, D. C.

6. Forecasting Occupational Opportunities: Quantitative Procedures and a Case Study of Santa Barbara County

   General Research Corporation
   P. O. Box 3587
   Santa Barbara, CA 93105

NOR CAL WORKSHOP
November 3-4, 1972
Lorine A. Aughinbaugh

Tips on questionnaires and interviews.

Primary Source Data

Interview Method

Advantages

1. A higher degree of accuracy is attained through the acquisition of material direct from the source.

2. Material is often obtained that cannot be secured through the questionnaire.

3. There is opportunity personally to check information acquired.

Disadvantages

1. Only small samples can be gathered.

2. The subjective factor is involved in recording by interview.

3. The method is generally inefficient, and the time and expense involved necessarily mean limited field coverage.

Questionnaire Method

Characteristics

1. The questions should be easily understood.

2. If possible they should be arranged in logical sequence.

3. The answers should consist of yes or no, check or blank space, or numerical indication where possible.

4. The questionnaire should be concise.

5. It should be in the most convenient, answerable form.

6. It should be constructed so as to facilitate the tabulation of data.

Advantages

1. A large area may be easily and quickly covered.

2. The method of assembling data is relatively inexpensive.

Disadvantages

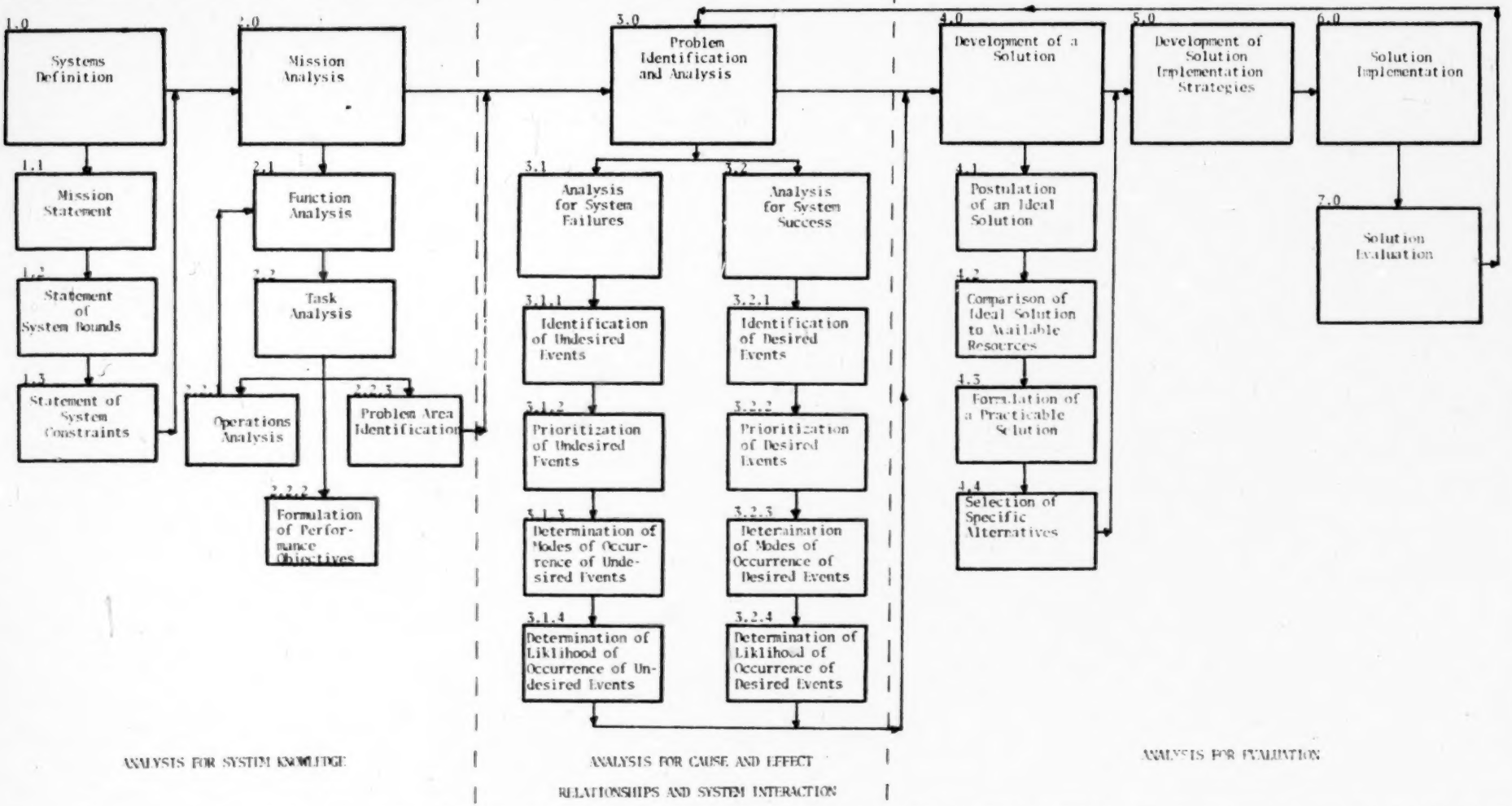
1. Frequently questions cannot be answered without a supplementary explanation.

2. In many cases the results are unreliable.

3. A large part of the sample taken may not answer the questionnaire.

From: Arkin and Colton - Statistical Methods, 4th edition, c 1961 - page 150.

EDUCATIONAL SYSTEM PLANNING MODEL



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Second Research Training Workshop
for Vocational Educators

December 7-8, 1972

SUMMARY

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MEMORANDUM

TO: Nor Cal Research Training Workshop Participants

FROM: Walter L. Brooks

DATE: November 27, 1972

SUBJECT: Second Research Training Workshop

The second of the three Nor Cal research training workshops will be held at American River College on Thursday evening, December 7, from 7:30 to 10 p.m., and Friday, December 8, 8:30 a.m. through 3:30 p.m. Lorine Aughinbaugh is sending you parking permits and maps. The tentative agenda is shown below:

Thursday, December 7, 7:30 to 10 p.m. - Review

On Thursday evening, we will review progress made during the first workshop. A summary of the first workshop proceedings including copies of hand out materials will be available on Thursday evening. Those of you who were unable to attend the first workshop should be sure to be there on Thursday evening.

Friday, December 8, 8:30 to 10:30 a.m. - Critique of Projects

On Friday morning, participants will be asked to describe the research project they have undertaken. During the final session of the last workshop, it was found that projects tended to fall into two general classifications. About half the participants will be developing an occupational needs assessment plan for their college while the remainder will be developing a plan to follow up students in occupational training programs. Kent Stephens has asked that we answer two questions about our research projects as a first step in understanding systematic problem solving. The answers to these two questions correspond roughly to the first step in system analysis as described by Dr. Stephens. Participants should come to the Friday morning session prepared to answer the following questions about their project:

1. Why do you want to complete the project? In answering this question, be as specific as possible. Try to list all the reasons why the project ought to be completed. Is the information necessary to the operation of the college? In what way is it necessary? What functions will be improved as a result of this project?

2. Who will be affected by what you are doing? In answering this question, you should be specific in describing what the effect will be on significant members of the college community.

Friday, December 8, 10:45 to 12:00 a.m. - Problem Identification & Analysis

Kent Stephens will make a formal presentation in the morning on problem identification and analysis, the third step in his systematic problem solving model. We will go further with a problem solving model if it appears there is time for it.

Friday, December 8, 1:00 to 3:30 p.m. - Research Project Clinic

On Friday afternoon, we are going to try something a little different which you may find a useful learning experience. Each of the workshop consultants will be available at six different tables to give specific assistance to participants on their project or to discuss the following topics with you in general terms:

Problem definition - Dr. Kent Stephens

Experimental design - Dr. Paul Preising

Census data analysis - Dr. Tom MacMillan

Questionnaire and interviews - Lorine Aughinbaugh

Statistics and sampling - Dr. Ben Gold

Follow up - Dr. Ralph Smith

See you next Thursday evening.

Evaluation Sheet

Comments made by workshop participants. - Workshop #2, December 7-8, 1972

Thursday evening, December 7

A. Needs Assessment Group - Lorine Aughinbaugh

1. Interesting and helpful.
2. We had a good discussion, but not certain that as much specific information was given as might have been desirable.

B. Follow Up Group - Dr. Tom MacMillan

1. I felt this was good. It raised a question about an assumption I had made. This kicking around is good. Only problem is that sometimes it becomes dominated by one person. No fault of the leader.
2. Quite helpful.

C. Catch Up Session - Dr. Kent Stephens, Dr. Ben Gold, & Dr. Ralph Smith

1. I feel that this was a valuable session in that the review brought me to a point where I was able better to understand what was going on Friday.
2. Too brief, but excellent.

Friday morning, December 8

A. Individual Project Reports

1. I learned that almost everyone has essentially the same problem relative to research needs.
2. Helpful.
3. Stimulated some new ideas for our own use.
4. Gave me an idea of who to contact about a survey.
5. Good
6. Good to see what other schools are planning.

Friday morning, December 8 (cont.)

B. Occupational Information - Mr. Ralph Thompson

1. Helpful

2. I (we) feel strongly that Mr. Thompson's program for job market analysis, if as accurate as he claims, should be pushed by Nor Cal to CJCA and the Chancellor's Office for state-wide implementation. This should be an essential part of every community college's data base for voc. ed. decision making.

3. This is a dimension we should explore further - Nor Cal meeting?

C. Smorgasbord with Dr. Ben Gold, Dr. Ralph Smith, Dr. Paul Preising, Dr. Kent Stephens, and Mrs. Lorine Aughinbaugh.

1. Probably the most efficient way to deal with specialized individual problems.

2. Very good. I prefer structured presentations.

3. Most of this session was spent with Dr. Stephens--very helpful in defining our particular problems.

4. Good. It helped clarify a question I had in my mind about asking questions.

5. Good.

6. This seemed to satisfy several needs.

ATTENDANCE LIST

Workshop #2 - December 7 & 8, 1972

Name of Participant	Title	College or Organization
Lorine Aughinbaugh	Assistant Dean of Research	American River College
Ernie Droege	Division Chairman T V	American River College
Louis Quint	Assist. Dean, Voc. Ed.	American River College
Ralph Smith	Chairman-Dept. Ed. Adm.	Brigham Young University
Kent Stephens	Educa. Admin. Department	Brigham Young University
Jim Mitchell	Director-Transfer Ed.	Butte College
Earl McGhee	Director-Career Education	Butte College
Lance Rogers	Director-Tutorial & COIL	City College-San Francisco
Gary M. Jerome	Consultant	Chancellor's Office
Robert Deal	Assoc. Dean of Instruction	Columbia Junior College
Jon M. Hagstrom	Assoc. Dean of Instruction	Columbia Junior College
Phyllis Goldman	Director of Testing	Contra Costa College
Kenneth Jackson	Instructor	Contra Costa College
Vincent Padilla	Assoc Dean/Even. & Summer	Cosumnes River College
Henry Walters	Career Planner/Research	Cosumnes River College
Charles Peterson	Instructor	Feather River College
Gerald Fries	Coord. Inst. Research	Fresno City College
Richard Handley	Dean of Vocational Education	Fresno City College
Ben Gold	Director of Research	Los Angeles City College
Dayton Axtell	Psychometrist	Merritt College
Harry Shortess	Assist. Dean - Voc. Ed.	Merritt College
Virginia Murdoff	Dean of Students	Napa College
Ralph Thompson	Research	Sacramento County Office
Joe Leal	Coord. of Industrial Education	San Jose City College
Paul Preising	Director of Research	San Jose City College
Tom MacMillan	Research	Santa Barbara C. College
Ray Rosales	Counselor	Santa Barbara C. College
Joyce Welch	COIL Director	Santa Rosa Jr. College
Walter Brooks	Director of Research	Shasta College
Lloyd Livingston	Dean of Vocational Education	Shasta College
Martin Taylor	Dean-Student Pers. Services	Sierra College
Dean Eaton	Director of Admissions	Solano College

Third Research Training Workshop
for Vocational Educators

March 23-24, 1973

SUMMARY

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Solution Alternatives Selected by Workshop Participants. 47

MEMORANDUM

TO: Nor Cal Research Training Workshop Participants

FROM: Walter Brooks, Chairman

DATE: March 14, 1973

SUBJECT: Research Training Workshop

I hope you all remember that we have scheduled a research training workshop for Solano College the evening of March 22 and all day March 23. We will meet in the Boardroom in the Administration Building on the 22nd at 7:30 p.m. and then again in the Boardroom at 9:00 on Friday morning. Here is the agenda:

A G E N D A

Thursday,
7:30 - 10 p.m. Development of a model occupational follow-up system:

In this session, I am going to ask several college representatives to bring samples of their current follow-up procedures and instruments. What we will begin to do as a group is to develop a follow-up system incorporating the best of what each of us are doing. The idea is to begin to build a practical and feasible model which would meet the needs of each of our districts.

Friday,
8:30 - 9:00 a.m. Coffee and donuts.

9:00 - 10:00 a.m. Report on workshop projects:

In this session, workshop participants who have developed a project as an outgrowth of their participation in the workshop will have an opportunity to report on the progress of the project. From the response I have received thus far, not many colleges have gotten particularly elaborate with the research project. It would probably be unrealistic to expect anything different from a group of busy people but this will be an opportunity for those who have undertaken a project to describe what they have done. I would hope we could keep this informal as we did the last time. I will be contacting those people who returned the form indicating they had undertaken a project and allow you as much or as little time as you need to discuss what you have been doing.

Friday,

10:30 - 12:00 a.m. Description and discussion of a model occupational follow-up system:

During this session, we will continue our work on developing a model follow-up system. At this time, we will review the progress from the night before and attempt to agree upon a final description of an effective and feasible follow-up system.

12:00 - 1:00 p.m. Lunch

1:00 - 2:00 p.m. Open discussion on research techniques and methodology:

I am confident in my own mind that a good deal of learning has taken place in these workshops which will be useful to the participants in the future in planning, revising, or evaluating occupational programs. I think that a review session giving participants an opportunity to discuss concepts introduced during the workshop would be helpful.

2:00 - 3:00 p.m. Discussion of a subsequent research training workshop:

If sufficient interest exists, we might consider conducting one more research training workshop in which we would develop a needs assessment model similar to the follow-up model we will have cooperatively developed. Scheduling a subsequent workshop will depend upon interest of participants and success of our efforts in developing a model follow-up system.

Those of us who will be traveling a long distance to the workshop plan to stay at the Holiday Inn in Fairfield Thursday evening, although you are certainly free to make your own arrangements. As in previous workshops, the expenses of participants will be paid.

See you at Solano College.

ATTENDANCE LIST

Workshop #3 - March 23 & 24, 1973

Name of Participant	Title	College or Organization
Lorine Aughinbaugh	Assistant Dean of Research	American River College
Dean O'Brien	Electronics Instructor	American River College
Louis Quint	Assist. Dean, Voc. Ed.	American River College
Jim Mitchell	Director-Transfer Ed.	Butte College
Bill Morris	Consultant-Eval. of Voc. Ed.	Chancellor's Office
Lance Rogers	Director-Tutorial & COIL	City College-San Francisco
Bob Deal	Assoc. Dean of Instruction	Columbia Junior College
Phyllis Goldman	Testing Office	Contra Costa College
Henry Walters	Career Planner/Research	Cosumnes River College
Bill Preston	Director of Research	Diablo Valley College
Art Cherdack	Coordinator of Research	East Los Angeles College
Peter A. Selo	Director Research/Develop.	Laney College
Ben Gold	Director of Research	Los Angeles City College
Tom MacMillan	Dean of Student Personnel	Mendocino Community College
Dayton Axtell	Psychometrist	Merritt College
Virginia Murdoff	Dean of Students	Napa College
Ira Nelken	Project Auditor	Prog. Develop. Center
Ralph T. Thompson	Research	Sacramento County Office
Paul Preising	Admin. Assist.-Grants	San Jose City College
Ray Rosales	Voc. Ed. Counselor	Santa Barbara C. College
Walter Brooks	Director of Research	Shasta College
Lloyd Livingston	Dean-Vocational Education	Shasta College
Dean Eaton	Director of Admissions	Solano College
Gerald M. Simoni	Director- Voc. Ed.	Solano College

System Analysis of Occupational Student Follow Up

Needs Assessment

"What is"	"What should be"
1. Community college vocational educators currently do not have reliable information on the performance of former students on the job.	1. Vocational educators should know the impact of their training programs on the student for realistic educational planning.
2. Occupational educators cannot make accurate reports to the state regarding students in occupational programs. Currently, vocational educators are forced to make estimates.	

Mission Objective

By 5 p.m. on March 23, the research training workshop participants will outline a procedure which can be refined on each college campus to follow up occupational students and provide information which will satisfy both reporting needs and system planning needs of occupational educators.

Performance Requirements

Expected Outcomes:

The follow-up system developed during the research training workshop should:

1. Be descriptive of the total occupational student population.
   - A. Should satisfy the descriptive needs of the vocational dean, the counselor, vocational advisory committee, and state reporting.
     - (1) Description should include sex, age, race, disadvantaged status, handicap status, job identification, salary range
2. Serve as a guide to the educator in modifying occupational program characteristics.
   - A. Provide information on placement ratios, needs for curriculum revision, match and miss-match between training and industrial need.
3. Should provide information on all occupational programs offered.
4. Should be systematic and on-going.
5. Should provide for employer evaluation of occupational program objectives.
6. Should describe why a student is not working in the area for which he is trained.
7. Should provide for short-term and long-term follow up.

Necessary Constraints

1. The system must be inexpensive. It must require no more than _____ professional staff time and _____clerical time for its completion each semester. The materials and supplies required should cost no more than _____.

2. The system must be sufficiently adaptable and simple to implement that it can be adopted without outside consultation on each community college campus of workshop participants.

3. The system must lend itself to data processing but machine processing should not be a necessary requirement of the system.

4. The system must be capable of identifying and developing information on 80% of the occupational student population.

Definitions

For the purposes of this system, students will be classified in four ways:

1. The Undetermined General

   Students classified as "undetermined general" are students who have no course in their student study list which is required in the curriculum of any occupational program. An example of this would be the transfer student taking all lower division general education courses which relate to a state college or university program.

2. Undetermined Vocational

   Students classified as "undetermined vocational" have at least one course in their student study list which is required in an occupational curriculum but the course is of a general nature and cannot be specified as belonging to a particular occupational area. An example of this would be the student with a Technical Math course in his study list which was required in several occupational majors.

3. Determined Vocational Area

   Students classified as "determined vocational area" are those who are taking at least one occupational course which can be identified with an occupational subject area but is not sufficiently specific to describe as belonging to one occupational major. An example would be a student taking a Soils class in the Ag. department which was required only in the Agriculture-Natural Resources area and not in other vocational subject areas.

4. Determined Vocational Major

   Students classified as "determined vocational major" include one or more courses in their study list which are of a sufficiently specific nature to be described as relating to one occupational major. An example of this is a student who had Introduction to Law Enforcement and Criminal Law on his study list which relate only to a Police Science major.

Model Follow-Up System

I. Ask all instructors teaching courses designated as vocational education to read the memorandum requesting information on students' future occupational plans.

PRE-FOLLOW UP MEMORANDUM

TO: All instructors in vocational subject areas

FROM: Vocational Education Dean

DATE: Three weeks prior to final exams

SUBJECT: Student Occupational Placement Information

We are now in the process of preparing for the follow-up study in occupational majors. It is very important that we get the names of students who plan to seek work in an occupational field in which they have trained here at _____College. Would you please read the following message to students in classes listed at the bottom of the page.

"How many students in this class plan to seek full time employment at the end of the semester (or quarter) rather than return to college? All students who have not yet done so, should fill out a Student Occupational Placement Information form. This information is needed to assist you in your search for a job and to maintain contact with you when your formal training is completed to evaluate our instructional program. It is not necessary for students to supply this information if they have already done so in another class. Students who decide later to discontinue their education and seek work should drop by the Placement Office and fill out one of these forms when the decision is made."

Please collect all the forms and return to the Office of the Vocational Education Dean by the end of the week.

The forms should be passed out in the following classes:

_____ _____

_____

_____

_____

_____

_____

Instructor_____

Course_____

STUDENT OCCUPATIONAL PLACEMENT INFORMATION

Students planning to seek full time employment at the completion of this semester in a job related to the course work they have taken at _____College should complete the following form.

NAME_____ COLLEGE MAJOR_____

PERMANENT ADDRESS_____

Street City State

Job or occupational area in which you intend to seek employment:_____

_____

Please check the appropriate statement:

_____I am fairly certain I will be employed full time with (name and address of employer)_____

Job Title:_____

_____I think I may have a job but am not sure. (Name and address of prospective employer)_____

Job Title:_____

_____I have no prospects for employment at this time and I would appreciate placement assistance.

A. Students who indicate they are certain of employment would then be asked to complete the student follow up questionnaire (see page 49).

II. When the in-class follow up questionnaire has been completed by students:

A. Develop 3 lists from the returned questionnaires to indicate students who:

1. Are certain of employment
2. Are not sure of employment
3. Have no prospect of employment

B. Refer names of students indicating "Not sure and No prospect" to the Placement Office and division chairmen.

C. Refer total list back to division chairmen for review and addition of missed students.

III. Three weeks after the beginning of the new semester:

A. Check the students identified for follow up against the current enrollment roster and eliminate students who returned to college.

B. Determine the cost of following up all students identified. If the cost appears prohibitive, select a random sample of students for contact.

C. Send students the follow up questionnaire shown on the following page with an appropriate cover letter.

Occupational Student Follow-Up Questionnaire

Name_____ Present Address_____
Telephone Number_____ Social Security Number_____

What was your first job after leaving college? _____
Who was your first employer?_____

PLEASE ANSWEP THE FOLLOWING QUESTIONS RELATING TO YOUR PRESENT JOB.

What is your present job?_____
Who is your present employer?_____

Do you work full time?_____ Or part time?_____
Do you work day shift? _____ Swing shift? _____ Graveyard?_____ Other?_____
How many hours per week do you work?_____
What is your hourly rate of pay?_____ What is your monthly rate of pay?_____

How long have you held this job?_____

How has your college training helped you in your present job: to get the job?_____
to earn a promotion?_____ other?_____
(please explain)

Were you given help by the Placement Office or the instructional staff of the college in seeking your first job?
Yes_____ No_____ Please explain._____

Are you satisfied with your present employment?
Yes_____ No_____ Please explain._____

We would like to have you rate various aspects of your college experience as it relates to your present work. (Please check the appropriate column.)

	Excellent	Good	Acceptable	Poor
a. College instructional program				
b. Training facilities & equipment				
c. College work experience program				
d. College counseling services				

Which course or courses taken while in college have been most helpful to you in your work?
Explain._____

_____

What additional training or skills would have been most useful for you to develop? Explain.

_____

_____

Comments: Please provide any information about yourself, or the college, which you feel would be helpful to us in improving our occupational programs. _____

_____

This questionnaire is designed to be printed on card stock and folded in the center. A stamp and the address of the college is placed on the outside of the card. The card is included with the follow up letter to the student.

IV. Send a second and third follow up letter and questionnaire to students not responding to the first at two week intervals.

V. From the follow up returns, identify a sample of jobs which typify the target jobs in a specified vocational major. After a six month interval, interview employers identified through this process to relate job training to job skills of the student.

VI. Prepare a follow-up report

A. Match student returns with the permanent student record to relate descriptive data to the follow up. This should include sex, age, race, disadvantaged status, handicap status, college major, and vocational education courses taken.

B. Classify students under one of the four classifications developed for this system: undetermined general, undetermined vocational, determined vocational area, or determined vocational major. Report the percentage and number of students in each category.

C. In the report, identify students working in the area for which they are trained and those not working in the area of training by major or area of concentration.

D. Report on statements of courses students found most helpful.

E. Report on training or skills most useful to develop.

F. Report on amount and kind of help received in getting first job.

G. Report on student evaluation of instructional program, training facilities and equipment, work experience program, and counseling services.

H. Report on the relationship of GPA of students in occupational courses to successful placement and job satisfaction.

VII. Dissemination of the report

A. Division chairmen

B. Occupational advisory committee

C. College administrative cabinet

D. Board of Trustees

UNIVERSITY OF CALIF.
LOS ANGELES

FEB 15 1974

CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION